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Edward J. Milbrada 40,090
Name of Agent Registration No.

Signature of Agent

AF 3761
#22
DL
7-30-03

P&G Case 6900R

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of	:	
TERRILL A. YOUNG, ET AL.	:	Confirmation No. 1564
Serial No. 09/398,842	:	Group Art Unit 3761
Filed September 17, 1999	:	Examiner J. Webb

For ABSORBENT ARTICLES HAVING CUFFS WITH SKIN CARE COMPOSITION DISPOSED THEREON

REPLY BRIEF TRANSMITTAL

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Enclosed, pursuant to 37 CFR 1.193(b)(1), is the Reply Brief for the above application.

We do not believe a fee is due. If, however, a fee is due, the Commissioner is authorized to charge any fee which may be required to Deposit Account No. 16-2480. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

By

Edward J. Milbrada
Agent for Applicant(s)
Registration No. 40,090
(513) 626-1167

Date: July 22, 2003

Customer No. 27752

(ReplybriefTransmittal.doc)
(Last Revised 5/21/02)

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July 22, 2003

Edward J. Milbrada 40,090
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Case 6900R

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In the Application of **TERRILL A. YOUNG, ET AL.**	:
Serial No. 09/398,842	: Group Art Unit 3761
Filed September 17, 1999	: Examiner J. Webb
Confirmation No. 1564	:
For: ABSORBENT ARTICLES HAVING CUFFS WITH SKIN CARE COMPOSITION DISPOSED THEREON	:

REPLY BRIEF

Honorable Commissioner for Patents
Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is a Reply Brief in the Appeal of currently pending Claims 1-3 and 5-20 of the above-identified application. These claims were finally rejected in an Office Action dated November 7, 2002. A Notice of Appeal was mailed on January 3, 2003. As described at MPEP § 1206, an Appeal Brief was filed in triplicate within two months of the Office date of receipt of the Notice of Appeal (January 8, 2003). An Examiner's Answer, responding to the Appeal Brief was mailed on May 23, 2003. This Reply Brief is being filed in triplicate within two months of the Examiner's Answer under 37 CFR § 1.193 (b). Authorization is given to charge any fees required under 37 CFR § 1.17 related to this appeal to Deposit Account No. 16-2480.

RESPONSE TO EXAMINER'S ARGUMENTS

In response to the Appellants' argument that the rejection, under 35 USC §103(a), of Claim 1 as amended over either the combination of Roe (6,120,783), Gillespie, et al. (5,783,503) and Shultz, et al. (6,103,647) or the combination of Lawson (4,695,278), Gillespie, et al. (5,783,503) and Shultz, et al. (6,103,647) was improper (i.e. Issues 1 and 2 respectively) the Examiner now states that the Gillespie reference:

1) is only being relied on for a teaching of the denier of the fibers and

2) that the Gillespie reference states that filaments are useful without splitting (col. 2, lines 59–62) and that microdenier filaments of low orientation have been made by melt blowing (col. 6, lines 29–33).

With this premise, the Examiner concludes with the assertion that there is motivation in the Gillespie reference to make single component microdenier fibers.

The Appellants respectfully point out that the Examiner's arguments fail to consider <u>all</u> of the claim limitations (MPEP § 2143.03). Specifically, the Examiner's arguments fail to consider the fact that Claim 1 as amended limits the claimed cuff to nonwovens comprising <u>spunbonded</u> fibers that consist essentially of metallocene polypropylene. The relevant portion of Claim 1 as amended is listed below:

> ...said cuff comprising **a nonwoven consisting essentially of metallocene propylene spunbond fibers** (emphasis added) having a denier less than about 1.3 and wherein said nonwoven has a hydrostatic head of at least about 85 mm.

As exemplified by the arguments in the Examiner's Answer, the Examiner relies on Gillespie for support for fibers having a denier less than about 1.3, calling them microdenier fibers. The Appellants submit that the Examiner's arguments are incorrect for at least the following reasons:

- <u>The Examiner has failed to show that there is motivation in the Gillespie reference to provide a single component spunbonded fiber.</u> In the arguments, the Examiner relies on col. 6, lines 29–33 for support for the assertion that the

Gillespie reference teaches fibers having low denier. However the Examiner has failed to consider the Gillespie reference in its entirety (MPEP § 2141.02) and ignores those portions of the Gillespie reference that clearly teach that small denier fibers can only be achieved by either melt blowing or by splitting spunbond fibers. Specifically, the Appellants respectfully point out that the Examiner has failed to consider the fact that the Gillespie reference clearly teaches that small denier fibers can only be achieved by either melt blowing or by splitting a spunbonded fiber. The Appellants direct the Board to col. 2, lines 29–42 of the Gillespie reference which states:

> The filaments of the invention include sub-denier or micro-denier filaments of increased strength, softness, and barrier that can be used in a variety of products having surprising properties, including products prepared from spun-laid and spun-bonded nonwovens. Typically, micro-denier filaments have been produced using melt blowing technology. Micro-denier filaments obtained from melt blowing processes typically are obtained with relatively low molecular weight polymers. In contrast, the micro-denier continuous filaments of the invention have a low orientation and can be obtained from the relatively high molecular weight polymers typically associated with spunbonding processes.

Given that Gillespie's invention is a splittable fiber where chemical, mechanical or electrical properties of the <u>multicomponent</u> fibers are controlled to promote separation of the components (col. 2, lines 16–29), it is clear from the above that the only way Gillespie teaches that small denier fibers can be achieved is by either melt blowing or by splitting multicomponent spunbonded fibers. The Appellants also note that the only fibers listed in Table 1 of the Gillespie reference having a denier less than 5.6 (4 times the maximum claimed denier) are multicomponent fibers where splitting has occurred. In other words, there is no motivation in the Gillespie reference to provide a single component spunbonded fiber with a low denier (<1.3). Since the Examiner has admitted that both the Roe and Lawson patents fail to teach the use of spunbonded fibers with a denier less

- In the spunbonding process the extruded fibers are quenched by cool (relative to fiber temperature) air that causes the polymer to solidify quickly. The air stream then stretches and orients the fibers resulting in continuous filament fibers with a diameter on the order of 15–20 microns*(1.5 denier–2.5 denier) that are collected on a forming belt to form a nonwoven.
- In melt blowing the extruded fibers are attenuated with hot air. The hot air allows the fibers to remain soft so they stretch, thin and, ultimately, break. The discontinuous fiber filaments have a diameter on the order of 3 microns (<0.1 denier)*. The fiber stream is collected on a forming belt to form a nonwoven.

In other words, there are significant morphology differences between spunbonded and melt blown fibers. In addition to the diameter differences, spunbonded fibers are substantially continuous filaments, while meltblown fibers are discontinuous which results in meaningful strength and resiliency differences. This is why the art has traditionally used SMS (spunbonded/meltblown/spunbonded) laminates where the spunbonded layers provided strength and resiliency while the meltblown layer provided a barrier. Net, a fine fiber melt blown nonwoven is not suitable for use as a cuff material for an absorbent article and low denier melt blown fibers are not evidence of low denier spunbonded materials that would be suitable for use as a cuff material. Said another way, using a reference that teaches low denier melt blown fibers in a combination of references to reject a claim for obviousness under 35 USC § 103(a), as has been done for the claims under appeal, is improper.

* Nonwovens Industry, February 1993, page 40, copy attached

SUMMARY

The Appellants submit that they have shown that the Examiner's Answer fails to provide convincing arguments why the final rejection, under 35 USC § 103(a), of Claims 1-3 and 5-20 was proper. The Appellants further submit that the claims are unobvious over the cited art. Accordingly, the Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the Examiner's final rejection under 35 USC § 103 (a) and remand with directions to allow all of the pending claims of the present application.

Respectfully submitted,

For: Terrill A. Young et al.

By Edward J. Milbrada

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Date: July 22, 2003

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the larger producers of spunbonded and melt blown fabrics around the world.

Reemay, Old Hickory, TN. Reemay manufactures polyester spunbonds for use in filtration and agricultural products and polypropylene spunbonds for primary carpet backing, geotextiles, house wrap, landscape fabric and can separator pads. At last November's IDEA '92 show, Reemay introduced a new product segment for its "Typar" spunbonded polypropylene. Designed for graphic printing and outdoor signs, "Typar Banner Stock" specifically targets the vinyl letter and silk screen markets.

In addition, a recent worldwide marketing agreement was signed between Du Pont and Reemay for the distribution of Reemay's polypropylene spunbonded primary carpet backing products. The Typar product will continue to be manufactured by Reemay but will be marketed by Du Pont, which will also sell its primary backing product under the Typar name.

The expansion plan for the company's spunbonded capacity, set in motion earlier in the 1990's, is also continuing. Scheduled for completion in late 1995 or early 1996, the expansion will incorporate both "Reemay" and Typar spunbonded technologies.

Freudenberg Spunweb, Durham, NC. Freudenberg Spunweb, part of the Freudenberg Group, the world's largest roll goods producer, manufactures only polyester spunbonds in the U.S., although it imports some polypropylene and nylon products from its European sister companies. The fabric is generally a heavy denier, medium weight spunbond, used in durable products such as carpet backings, roofing materials, automotive interior carpeting and filtration media.

Kimberly-Clark, Dallas, TX. Manufacturing spunbonded and melt blown fabrics for inhouse demands as well as for outside markets, the roll goods division at K-C is looking strongly at composites and laminates as the next place for improved fabrics. Its "Evolution 3" spunbonded-melt

Spunbonded And Melt Blown Nonwovens: Technologies And Markets Defined

Melt blown and spunbonded fabrics. Born out of fiber and polymer research, the two technologies, which are among the more recent nonwoven innovations, are very similar in the broadest terms. Specifically, the technologies are very different.

Both spunbonding and melt blowing are one-step extrusion processes, producing fabric directly from polymer resin. That is where the similarity ends. To briefly describe the technologies, melt blowing employs a thermoplastic polymer that is passed through a linear die, with 20-40 small orifices per inch of width, to create polymer streams that are attenuated by hot air and deposited onto a collector screen. The result, after the collected streams are run through a consolidating roll, is a discontinuous filament web structure of extremely fine diameter fibers (three microns in diameter on average) that has low to moderate strength.

Spunbonded technology uses a similar thermoplastic fiber-forming polymer, which is extruded through a linear or circular row of spinnerettes. The polymer streams are cooled and attenuated by air or by mechanical drafting rollers to achieve the required filament diameters and the filaments are deposited onto a conveyor belt. A final bonding step (needling or thermal bonding) results in a stronger nonwoven web of continuous filament fibers in the 15-20 micron range.

With different processes come different fabrics. Melt blown fabrics are most often used as a breathable barrier material because of the finer filtering capability of the smaller diameter fibers. More than half of all melt blown and melt blown composite production is accounted for by the filtration media and medical/surgical markets. Absorbent product, sorbents and wipes are the next largest users.

Spunbonds create a stronger material that has found use as diaper coverstock (polypropylene), roofing substrates (polyester), automotive and carpet tile backing (polyester) and medical disposables (polypropylene).

According to *The Nonwovens Fabrics Handbook*, nearly $^{2}/_{3}$ of U.S. spunbonded fabric production is made with polypropylene; diaper coverstock material is the largest end use, accounting for almost half of all spunbonded polypropylene production. Medical, carpet backing and furniture and bedding applications make up the next largest sectors of U.S. spunbonded polypropylene production.

Roofing products are the major end use for polyester spunbonds, accounting for nearly $^{1}/_{3}$ of total U.S. production. Approximately 15-20% of the market is consumed by the automotive and carpet tile backings markets, with filtration, furniture and bedding and fabric softener products each accounting for the next largest portions.

Roughly $^{1}/_{3}$ of all U.S. and European nonwovens are manufactured using spunbonded and melt blown technology and that share is growing, although further growth in melt blown fabrics will probably be fueled through composites and laminates. In Japan, only about 25% of nonwoven materials are manufactured using extrusion processes. □

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